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Siemens Corporation
Intellectual Property Department
170 Wood Avenue South
Iselin, NJ 08830

| EXAMINER | |
|---|---|
| LI, GUANG W | |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/510,315 | PAVLIK ET AL. | |
| | Examiner | Art Unit | |
| | Guang Li | 2146 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *28 April 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *11-19,23-29,31 and 32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *11-19,23-29,31 and 32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

**DETAILED ACTION**

1. It is hereby acknowledged that the following papers have been received and placed of record in the file: Amendment date 04/28/2008

2. Claims 11-19, 23-29 and 31-32 are presented for examination.

3. The rejections are respectfully maintained and reproduced infra for applicant's convenience.

***Response to Arguments***

4. Applicant's arguments filed 04/28/2008 have been fully considered but they are not persuasive.

5. Applicant argues following limitations:

- Claim 11 and 29 disclose " a web sever comprising…", it is well known that any server is a combination of hardware and software that overcome rejection under 101. Examiner disagrees with applicant argument with this limitation. In contrast with claimed invention, a web server comprising only software portion which directed to software per se. In addition according to Reference.com, Web Server can mean **a computer program** that is responsible for accepting requests from client, which are known as web browsers, and serving them HTTP responses along with optional data contents, which usually are web pages such as HTML documents are linked objected (images, etc.). Therefore, Examiner maintains his rejection under 101. Examiner suggest

- On page 5 of remarks, Applicant discloses at par[0022] "A web server includes an expansion module which may take on the functions of a programmable logic controller(PLC). that is, the PLC function is part of the server." First, web server expansion module which

provides the functions of programmable logic controller (PLC), this limitation was not claimed in the original claim invention. Therefore Further reconsideration/search needed. Second, expand module which provides the functions of a programmable logic controller can be interpret expansion module as the Black Plane Driver (Fig.3 item 56) provides functions of programmable logic controller plug-in to use functionality of PLC (see col.5 lines 56-65).

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 11 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. Claim 11 recites the limitation "software module and an expansion module which provides the functions of a programmable logic controller" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim. It is unclear whether the software modules or expansion module provides functions of a programmable logic controller.

***Claim Rejections - 35 USC § 101***

9. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

10. Claims 11-19, 23-29 and 31-32 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. As the specification discloses (¶[0006]),

"web server comprising software modules in which at least a first software module has first means for.....". a web server comprising only software portion which directed to software per se. In addition according to Reference.com, **Web Server** can mean **a computer program** that is responsible for accepting requests from client, which are known as web browsers, and serving them HTTP responses along with optional data contents, which usually are web pages such as HTML documents are linked objected (images, etc.). It is directed to server having software module. It's directed to the program itself, not a process occurring as a result of executing the program, a machine programmed to operate in accordance with the program not a manufacture structurally and functionally interconnected with the program in a manner which enables the program to act as a computer component and realize its functionality. It's also clearly not directed to a composition of matter. Therefore, it's non-statutory under 35 USC 101.

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

13. Claims 11-19, 23-29 and 31-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swales (US 6,321,272) in view of Lindner et al (US 6,640,140).

14. Regarding claim 11, Swales teaches a web server (Web server 30 see Fig.2 block 30) comprising software modules and an expansion module (Fig.3 web server module) , the server providing through the expansion module a first mechanism for implementing an automation functionality (programmable controller use to control the process control system "field of programmable controllers and more particularly to a system for the exchange of time-critical information between control devices coupled to an intranetwork such as would be common in the fields of factory automation and industrial process control" see col.1 lines 15-20) and the server further providing a mechanism (communication link between Ethernet driver 48 and network 42 see Fig. 3) to directly access the real-time communication level ("provide an interface between the general purpose network and the industrial control system that will allow the transfer of real time control data with guaranteed delivery times" see col.2 lines 31-34) of a real-time Ethernet,(web server module can be adapted to different kind of network "Examples of such networks are Ethernet, IBM Token Ring, Fiber Distributed Data Interface, the X.25 international packet switch network and many offerings from telephone companies such as Asynchronous Transfer Mode" see col.1 lines 49-55) wherein the expansion module is connected to an input/output module of an automation system (Programmable logic controller 110 able support the input 122 and output devices 120 and connected to web server through Intranet 102 see Fig.5).

Swales does not explicitly disclose an expansion module which provides the functions of programmable logic controller.

Lindner teaches an expansion module which provides the functions of programmable logic controller (the functionality services is within the PLC devices that provide functionality of PLC "The module 11 having ladder scan functionality services I/O modules 22 connected to devices 23 that are either sensors or actuators, solving so-called ladder logic to determine outputs commanding the next state of each associated device based on all inputs for that device" see Linder: col. 3 lines 49-64).

It would have been obvious to one of ordinary skill in the art, having the teachings of Swales and Lindner before them at the time the invention was made to modify the expansion module which provides the functions of programmable logic controller as taught by Lindner.

One of ordinary skill in the art would have been motivated to make this modification in order to enhance automation system for control purpose in view of Lindner.

15. Regarding claim 12, Swales together with Linder taught the web server according to claim 11, as set hereinabove. Swale further teaches wherein the web server comprises a connection to a communication network (web server module 30 within web server connects to network 42 see Swales: Fig.3 blocks 30 and 42).

16. Regarding claim 13, Swales together with Linder taught the web server according to claim 12, as set hereinabove. Swale further teaches wherein the communication network is the Internet (the relationship between a user 2 at a remote location and an Internet web site 4 used for monitoring a process control system 6 through Internet 14 see Swales: col.3 lines 56-59; Fig.1).

17. Regarding claim 14, Swales together with Linder taught the web server according to claim 11, as set hereinabove. Swale further teaches wherein Internet protocols are provided for communication between the software modules and for communication between the software modules and components outside of the web server (TCP/IP protocol was use in and out of network "General purpose network protocols using this hardware include the increasingly dominant TCP/IP, and Novell IPX, Digital Equipments DECNET and others. The TCP/IP-Ethernet combination, in particular, is the most widely deployed computer network interface in use, and therefore has minimum cost to implement and support" see Swales: col.1 lines 56-61; col.4 lines 6-7).

18. Regarding claim 15, claim 15 is rejected for the same reason as claim 14 as set forth hereinabove.

19. Regarding claim 16, Swales together with Linder taught the web server according to claim 11, as set hereinabove. Swale further teaches wherein the web server is adapted for configuration and administration of the software modules (administrator access the web server to control the backplane application "The gateway 72 contains a firewall to provide the necessary security and couples the PLC system 70 through an intranetwork 74 controlled by a network administrator 76" see Swales: col.9 lines 65-67 and col.10 lines 1-12).

20. Regarding claims 17 and 18, they are rejected for the same reason as claim 16 as set forth hereinabove.

21. Regarding claim 19, Swales together with Linder taught the web server according to claim 11, as set hereinabove. Swale further teaches wherein the expansion module comprises a connection to an industrial automation system (interface between the general purpose network

and the **industrial control system** that will carry on-demand traffic from computer systems, operator terminals, and alarm systems see col.2 lines 35-39).

22. Regarding claim 23, Swales together with Linder taught the web server according to claim 11, as set hereinabove. Swale further teaches wherein the web server comprises a connection to Internet via a firewall (A firewall or security for the overall system can be included in the Web Server 30, but is generally maintained as part of the network interface 16 see col.4 lines 39-41).

23. Regarding claim 24, Swales together with Linder taught the web server according to claim 11, as set hereinabove. Swale further teaches wherein the web server is connected via a communication network to a web browser as a control and monitoring system (The browser 10 functions as a remote human-machine interface or HMI control of the process control system and user at a remote location utilizing a browser which controlling a programmable controller system see col.4 lines 31-33; Fig.7).

24. Regarding claims 25-26, they are rejected for the same reason as claim 24 as set forth hereinabove.

25. Regarding claim 27, Swales together with Linder taught the web server according to claim 11, as set hereinabove. Swale further teaches wherein the web server comprises a real-time operating system (A real time operating system 44 controls the interaction between the components. The operating system 44 allocates central processor (CPU) 46 to various tasks, provides memory management, and provides a set of message services and signal services see col.5 lines 9-13).

26. Regarding claim 28, claim 28 is rejected for the same reason as claim 27 as set forth hereinabove.

27. Regarding claim 29, Regarding claim 11, Swales teaches a automation system comprising a web server (Web server 30 see Fig.2 block 30) comprising software modules and an expansion module (Fig.3 web server module) providing an automation functionality (programmable controller use to control the process control system "field of programmable controllers and more particularly to a system for the exchange of time-critical information between control devices coupled to an intranetwork such as would be common in the fields of factory automation and industrial process control" see col.1 lines 15-20) within connection to an input/output module of an automation system (Programmable logic controller 110 able support the input 122 and output devices 120 and connected to web server through Intranet 102 see Fig.5).and the server further providing direct access to the real-time communication level ("provide an interface between the general purpose network and the industrial control system that will allow the transfer of real time control data with guaranteed delivery times" see col.2 lines 31-34) of a real-time Ethernet(web server module can be adapted to different kind of network "Examples of such networks are Ethernet, IBM Token Ring, Fiber Distributed Data Interface, the X.25 international packet switch network and many offerings from telephone companies such as Asynchronous Transfer Mode" see col.1 lines 49-55).

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PLC "The module 11 having ladder scan functionality services I/O modules 22 connected to devices 23 that are either sensors or actuators, solving so-called ladder logic to determine outputs commanding the next state of each associated device based on all inputs for that device" see Linder: col. 3 lines 49-64).

It would have been obvious to one of ordinary skill in the art, having the teachings of Swales and Lindner before them at the time the invention was made to modify the expansion module which provides the functions of programmable logic controller as taught by Lindner.

One of ordinary skill in the art would have been motivated to make this modification in order to enhance automation system for control purpose in view of Lindner.

28. Regarding claim 31, Swales together with Linder taught the web server according to claim 11, as set hereinabove. Swale further teaches wherein the first mechanism is a controller of components and processes (Backplane driver and Ethernet driver use for controlling process see Fig.3 blocks 50 and 56), wherein the web server includes a TCP/IP stack (Fig.3 block 54) and wherein direct access to the real-time communication level is effected by a direct connection between the TCP/IP stack and an automation device with communication by means of a TCP/IP-based real-time Ethernet protocol (Ethernet and backplane driver user the TCP/IP stack protocol to transmit messages "The TCP/IP stack 54 calls the Ethernet driver 48 to transmit a message. The Ethernet driver 46 attempts to allocate a buffer from the shared memory 52. If it succeeds, it copies the message into the buffer, and places the buffer into the AM79C961 transmit queue" see col.5 lines 35-45).

29. Regarding claims 32, they are rejected for the same reason as claim 31 as set forth hereinabove.

## ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Guang Li whose telephone number is (571) 270-1897. The examiner can normally be reached on Monday-Friday 8:30AM-5:00PM(EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeff Pwu can be reached on (571) 272-6798. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

July 24, 2008
GL
Patent Examiner

/Jeffrey Pwu/

Supervisory Patent Examiner, Art Unit 2146